

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Chef Atom's Recipe Rescue: A 5th Grade Mole Quest

Students count giant 'batches' of atoms and balance snack-themed reactions to understand how chemical recipes work in the real world.

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**1. In chemistry, a 'mole' is most similar to which of these everyday grouping words?**

- A. A dozen (12 items)
- B. A single mile
- C. A heavy rock
- D. A tiny spoon

**2. True or False: A mole of heavy gold atoms and a mole of light helium atoms contain the exact same number of particles.**

- A. True
- B. False

**3. If a cookie recipe (equation) says you need 2 cups of sugar for every 1 bag of flour, the ratio is \_\_\_\_.**

- A. 1 to 1
- B. 2 to 1
- C. 3 to 2
- D. 4 to 1

**4. Why do scientists use the 'mole' instead of just counting individual atoms one by one?**

- A. Because atoms are too colorful to count
- B. Because atoms are too tiny and there are too many of them
- C. Because moles are smarter than scientists
- D. Because atoms disappear when you touch them

**5. True or False: Stoichiometry is the study of the amounts of materials used and made in chemical reactions.**

- A. True
- B. False

**6. If 1 balloon requires 2 breaths of air to fill, how many breaths do you need for 3 balloons? \_\_\_\_**

- A. 2 breaths
- B. 3 breaths
- C. 5 breaths
- D. 6 breaths

**7. What happens to the total weight of the ingredients after a chemical reaction 'recipe' is finished?**

- A. It stays the same

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- B. It disappears completely
- C. It doubles in size
- D. It turns into bubbles only

**8. In the 'reaction' 2 Wheels + 1 Frame = 1 Bicycle, the '2' and '1' are called \_\_\_\_.**

- A. Alphabet letters
- B. Coefficients (Numbers that show amounts)
- C. Secret codes
- D. Weights

**9. True or False: You can use a kitchen scale to measure the mass of a mole of a substance.**

- A. True
- B. False

**10. If a chemist has 1 mole of Silver and 1 mole of Gold, what do they have an equal amount of?**

- A. Equal weight
- B. Equal number of atoms
- C. Equal color
- D. Equal value in money